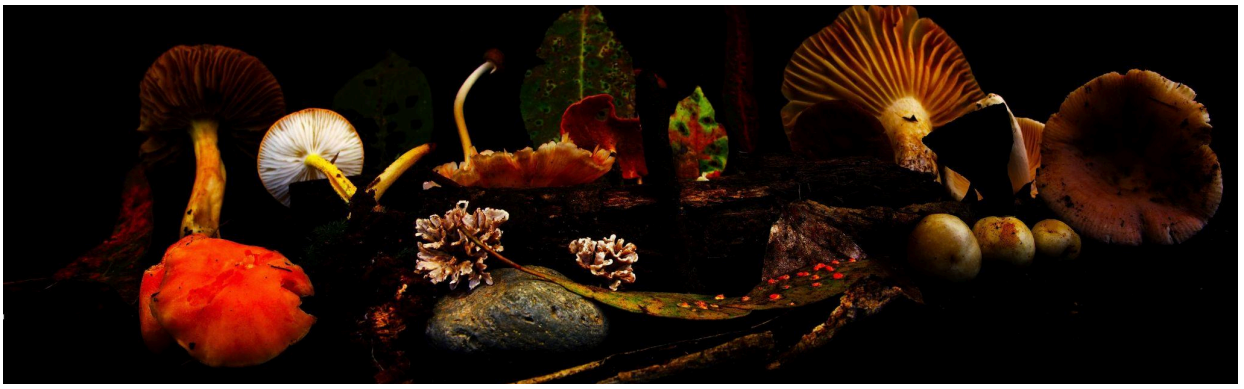


Some fungi from the Upper Allyn River

Autumn is fungi season in south eastern Australia. There's certainly bound to be fungi at Peachtree Park. Take a few minutes to get used to the gloom of the rainforest. Look carefully. Some fungi are tiny, some look like a bit of burnt bark, some even look like a mucus glob.
When you find a fungus, take some photos or drawings, but more importantly, take some notes, not later, but right now when you see it. A detailed written description is a useful way of recording information on the characters of the fresh fruit body that will be lost on drying. A description should provide information on the size, shape, colour, texture, surface covering and viscosity of all parts.

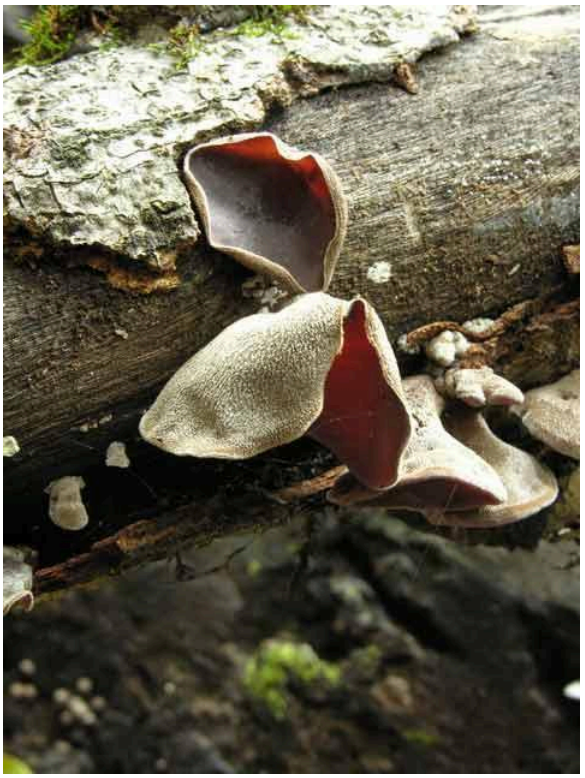
- Record the size (e.g. diameter of pileus or cap, length and diameter of stipe or stem) should be recorded as a range using the smallest and largest mature specimens.
- Describe whether the fungus is pored, micro-pored, gilled, toothed, coral-like etc.
- What is the fungus growing on? Some fungi grow on dead wood, some on live wood, some in soil, some even grow on caterpillars and other insects!
- Note changes in shape as specimens mature (e.g. caps convex in young fruit bodies, becoming plane in mature specimens).
- Describe colour changes occurring as a result of handling, cutting, or drying out (hygrophanity). Some fungi dramatically change their flesh colour when cut.
- Describe the colour of the cap, the flesh and the stipe.
- Does the stipe easily snap? Does the cap exude a sap when cut? Is the stipe hollow or stuffed?
- Many collectors describe colours by referring to standard colour reference charts (e.g. the Methuen Colour Chart).
- Note the presence of features such as scales, warts, fibrils, striations and pleats on the cap surface and whether the margin is even or undulate, entire or ragged with veil remnants. Examination with a hand lens will enable you to describe the indumentum (surface covering).
- A longitudinal section through the fruit body will allow you to describe the gill attachment and the colour and texture of the cap and stipe flesh.
- You can make a spore print by placing the fertile surface on a black card and a white card, putting a glass upside down over the specimen, and leaving overnight in a non-draughty place.
- Don't forget to take a good whiff and describe the smell. Some collectors record taste, but this is not recommended for the inexperienced! Please only taste the minutest portion and spit out any residue.

The following are some of the fungi that can be found at Peachtree Park. In addition to fungi, this area has a wide variety of slime moulds, and lichens, a symbiosis between fungi and algae or cyanobacteria. Some details of these are in the notes.
You can find further information by looking at:

Atlas of Living Australia website at http://www.ala.org.au.
Fuhrer, B. (1993). Fungus photography. Victorian Naturalist 110: 96-97.
Kornerup, A. & Wanshcer, J.H. (1978). Methuen handbook of colour (Methuen: London)
Largent, D.L. (1986). How to identify mushrooms to genus I: Macroscopic features. Revised edition (Mad River Press: Eureka, California).
Leonard, P.L. (editor) (2010). A guide to collecting and preserving fungal specimens for the Queensland Herbarium. Queensland Herbarium, Department of Environment and Resource Management, Brisbane.
May, T.W., Milne, J., Wood, A.E., Shingles, S., Jones, R.H. and Neish, P. (2006). Interactive Catalogue of Australian Fungi, version 3.0. Australian Biological Resources Study, Canberra/Royal Botanic Gardens Melbourne. http://www.rbg.vic.gov.au/dbpages/cat/index.php/fungicatalogue
Royal Botanic Garden Edinburgh (1969). Flora of British fungi. Colour identification chart. (HMSO: Edinburgh).
The Council of Heads of Australasian Herbaria (2013). Australia's Virtual Herbarium.http://avh.chah.org.au

Dictyopanus species

Dictyopanus sp, growing on wood, Upper Allyn, April 2013.
The group shown is about 5cms across.
This fungus has elongated regular pores and is related to the "ping pong bat" fungus Dictyopanus pusillus.



Auricularia cornea

Auricularia cornea is a persistent fungus that has a soft pliable gelatinous body, densely covered with short hairs on outside, inside brown with whitish-grey bloom. Ear-like about 10 cm long, body appears pinched into the short stalk (about 7 mm long). Often in clusters on dead wood. This fungus is edible, but doesn't taste like much.

Xerula australis

Xerula australis, also known as *Oudemansiella* radicata group Xerula australis is a species of gilled mushroom in the family Physalacriaceae that is found in Australia.
The cap is 5 to 8 cm (2.0 to 3.1 in) in diameter, and brownish in color. The cap surface is moist, somewhat sticky, with conspicuous striations (grooves) at the margin. The gills have an adnate attachment to the stipe, are whitish in color, changing to buff in maturity, sometimes with a tinge of pink in older specimens. The whitish stipe is 8 to 11 cm (3.1 to 4.3 in) by 0.7 to 1.0 cm (0.3 to 0.4 in) thick, covered with small particles (furfuraceous) or small hairs (tomentose); the stipe bruises to a gray-tan color.[4] Like other *Xerula* species, X. australis has a characteristic root-like rhizomorph that extends down in the soil, usually attached to rotting wood under the fruitbody. The spore print is white. *Xerula* australis has been recorded growing singly or in groups on sandy soil in Southern Australia. It has also been recorded in large groups on dead roots in the rainforest of the Bunya Mountains, Queensland. It is also associated with eucalypt forests and woodland.

FUN FACT: An Armillaria solidipes organism in the USA covers an area of 9.6 sq km, and is somewhere between 1,900 and 8,650 years old.

Picipes badius

Picepes badius, formerly *Royoporus* badius, commonly known as the black-footed polypore or black-leg, is a species of fungus in the family Polyporaceae. It has a dark brown or reddish-brown cap that reaches a diameter of 25 cm (10 in), and a stipe that is often completely black or brown at the top and black at the base. It causes a white rot of hardwoods and conifers in temperate areas of Eurasia and North America. This one was growing on huge fig tree log which was completely decayed because of fungal activity. It was also found on ground nearby, on buried wood.

The specific epithet badius derives from the Latin root badi-, meaning "reddish brown". The common names "black-footed polypore" and "black-leg" refer to its characteristic dark-colored stipe. The mushroom's common names refer to its blackish stipe. The fruit bodies tend to be upright, growing solitary or in groups, sometimes with two or more fruit bodies arising from a common stipe. The cap is circular or kidney-shaped, and often lobed or with a wavy edge.

When young, the fruit bodies are convex, then become flat or funnel-shaped in maturity, reaching dimensions of 5–25 cm across by 1–4 mm thick. The upper cap surface is smooth and glossy, but develops radial wrinkles as it ages. The under-surface is white or cream-colored, yellowing when old. Pores are round and number 6–8 per mm, with decurrent tubes (running down the length of the stipe). The stipe, attached to the cap either centrally or laterally, is thick, velvety and dark brown to blackish-brown, black and longitudinally wrinkled when old. Picipes badius is a saprobic species, and causes white rot. It grows on the standing or fallen trunks and branches of various hardwood genera. The fungus grows in temperate regions of Asia, Australia, Europe, and North America.

§

Dyctiopanus sp

Dyctiopanus pusillus grows on wood.

Its common name is “Little Ping Pong Bats”. This fungus has its stem attached at the side of the cap and large pores underneath.

This cream/white fungus is a small, not quite round and slightly kidney shaped with cream/white pores and a lateral stem. The cap diameter is to 12 mm, with a projection to 12 mm.

The stem is cream; lateral – that is, off to one side, to 3 mm long, and is attached to the wood by a disc. The spore print is white. It has no smell. It is often found in large masses usually on living and dead wet eucalyptus logs. It has been observed to colonise the same log for five years, disappearing in dry periods and returning after rain. This is a saprotrophic fungus which specialises in rotting logs.

The size of the fungus's pileus ranges from about half-a-centimeter to about six centimeters in diameter. The stipes (stalk) size ranges from two to seven centimeters long. The coloration of Filoboletus manipularis changes depending on its maturation state. At maturity, the fruiting bodies have white or beige coloration. During maturation, however, the fruiting body - or basidiomata - can also have brown or pink coloration. The visibility of any brown or pink coloration decreases as the fruiting body matures, giving way to the more known white and beige appearance.

§

Filoboletus manipularis

Filoboletus manipularis is a species of agaric fungus in the family Mycenaceae. Found in Australasia, Malaysia, and the Pacific islands, the mycelium and fruit bodies of the fungus grow in forests and can be bioluminescent. References to *Filoboletus* manipularis can be found in Japanese folklore and Indonesian food culture. The shape of the pileus or cap in Filoboletus manipularis displays quite a bit of variation with cone-shaped, flattened, umbonate, depressed, and convex caps being observed. The underside of the pileus has pores, rather than gills, where spores are grown and dispersed.

Looks like Pseudohydnum gelatinosum

Close-up of the spines or teeth of a fungus growing at the Upper Allyn that looks like *Pseudohydnum* gelatinosum, a jelly like fungus, remarkably tough, with spines like a hydnum, hence the name. It grows on dead wood, and elsewhere on a pile of bark. The problem is recent DNA evidence suggests all such fungi growing outside of Europe and North Asia are from similar, but distinctly different taxa.

Anthrocophyllum archeri

Anthracophyllum archeri, commonly known as the "Orange Fan" fungus, is a small, decomposer fungus that grows on wood, particularly on small sticks and branches on the forest floor, often appearing in groups and exhibiting a fan-like shape with colors ranging from orange to red. The fungus is fan-like, with bright reddish orange gills that are widely spaced and fan outwards from a lateral stem (which can be short or absent). The color is bright orange-reddish. The texture is smooth and leathery. The caps are up to 2.5 cm in diameter. Found in Australian rainforests and wet eucalypt forests. Gills are a similar color to the cap and very widely spaced. The fungus appears en masse on decaying wood. Spore print is pure white. This fungus gives a wide range of green shades for dying wool.

Cortinarius austrovenetus

Cortinarius austrovenetus = *Dermocybe* austroveneta is an inedible brightly coloured green gilled fungus occuring in south eastern Australia. The fruit bodies of C. austrovenetus are smooth with a convex or flat cap that can be up to 16 centimetres across. The adnate gills are yellow brown.

Gyroporus (unknown bolete)

Unknown bolete, 800 metre walk, Lister Park, Upper Allyn, Chichester State Forest, NSW Australia, riverine rain forest, April 2007. Site of large collapsed fig, colonised by multitudes of fungi, on the decayed wood and in the surrounding soil. Very small, pore surface, white, with barely discernible pores. Cap slightly umbonate, rich russet velvet texture, smooth dry. Rim chestnut. Stipe stout and slight bulbous, rich russet velvet colour and texture, similar to cap, fading to chestnut and base. Flesh firm, white. Growing on wood, in soil.

Scutellinia scutellate

Scutellinia scutellate (eyelash fungus) – small orangey disc with dark brown brisle-like hairs around the margin. This species grows on wood. Grows singly or gregariously. This fungus, which is closest to the ascomycetes S. margaritacea, is easily recognised by its bright orange flattened cups fringed with fine black hairs. It is also closely related to the scarlet-coloured S. scutellata which is often found on rotting logs and other wood. The fruit body is shallow cup-shaped, without a stem. Disc broad, shallow cup-shaped, up to 2 mm deep with a very incurved margin at first, becoming shallower with a less obviously incurved rim; rim fringed with multiple tiers of fine dark brown or black bristles of uneven length (up to 2 mm long); bristles also on lower sterile surface but shorter; Upper fertile surface waxy-dry, smooth, bright orange; lower surface with short, pale orange or dirty whitish hairs. Stem absent; fruit bodies broadly attached to substrate Flesh thin. Basal mycelium not conspicuous. Odour distinctive. Taste none. spores white.

Geastrum triplex

Geastrum triplex, an earth star. Here shown releasing its spores when depressed. Photo by Ros Runciman.

Unknown truffle like fungus

A truffle in mycology refers to a fungus that has adapted to climatic conditions by enfolding the fruiting body in on itself and growing underground. They often have above ground equivalents, meaning they are of the same species, but with a wildly different appearance and habitat. Interestingly, all truffles are non-toxic, even if their above-ground counterparts are poisonous.

Bandicoots love truffles. They can detect the aroma of a truffle through several centimetres of soil. The fungi contain proteins and fats and are a valuable food source for many marsupials, including potoroos and bettongs. The fungal spores remain viable – and may have enhanced viability – after passing through the bandicoot's digestive tract.

Native truffles look like lumpy, roughly spherical pebbles in various shades of white, red, pink, yellow, brown and purple and are about 10 – 30 mm in diameter. The photo shows a truffle growing on buried wood, attached via cord like structure, gregarious, at the Upper Allyn in February 2017. Very hard to cut, worse than tough leather. Roy Halling, formerly of the New York botanic garden believes the truffle below (cut in half) to be an ascomycete truffle. Faint earthy smell.

§

Schizophyllum commune

Schizophyllum commune is a species of fungus in the genus Schizophyllum. The mushroom resembles undulating waves of tightly packed corals or a loose Chinese fan. Gillies or split-gills vary from creamy yellow to pale white in colour. The cap is small, 1–4 centimetres wide with a dense yet spongy body texture. It is known as the split-gill mushroom because of the unique, longitudinally divided nature of the namesake gills on the underside of the cap. It is found on rotting wood throughout the world. It may be a pathogen and is classified as inedible, although it has been regionally consumed. *Schizophyllum* commune is usually described as a morphological species of global distribution, but some research has suggested that it may be a species complex encompassing several species of more narrow distribution, as typical of many mushroom-forming Basidiomycota. The caps are 1–4 centimetres wide with white or grayish hairs. They grow in shelf-like arrangements, without stalks. The gills, which produce basidiospores on their surface, split when the mushroom dries out, earning this mushroom the common name split gill. The spore print is white.

Most fungi have more than two sexes, but *Schizophyllum* commune would have to win the prize. It has more than 23,000 sexes. While all mating types can initially fuse with any other mating type, a fertile fruit body and subsequent spores will result only if certain combinations are used.

It is common in rotting wood, and can be found throughout the world, year-round. S. commune may be a common cause of fungal infections and related diseases, most commonly that of the lungs. They have also been reported to cause sinusitis and allergic reactions. This is one fungus that is unwise to smell. It has been reported as widely consumed in Mexico and elsewhere in the tropics. In Northeast India, in the state of Manipur, it is known as kanglayen and one of the favourite ingredients for Manipuri-style pancakes called paaknam. In Mizoram, the local name is pasi.

Boletellus ananiceps

The cap is convex; 50 - 85 mm diameter; soft, velvety but soon covered in fibrillose matted scales; clay buff at first, dirty buff, but scales becoming mid brown to red, margin appendiculate with characteristic undulate portions of veil hanging down at maturity. Stipe: cylindrical; 80 – 120 × 10 – 25 mm; pale, white or with slight flush of lemon at apex, faintly powdered where veil clasps stipe, streaky fawn below, fibrillose in lower half, fibrils forming very loose covering and hardly perceptible reticulum; partial veil forming a free collar around the stipe in young specimens. The pores are lemon-yellow becoming greenish on bruising. The flesh is firm, white to pale buff, turning greenish blue to dark blue in cap on exposure to air, slightly blue at stipe apex, no change in lower 2/3rds of stipe.

Spore print is olive brown. Generally speaking, boletes (mushrooms with big pores, but not all mushrooms with big pores) are not lethally poisonous. Many might make you mildly sick, but some are very edible.

§

Ramaria ochraceosalmonicolor

Ramaria ochraceosalmonicolor, in dense leaf litter. J. H. Willis mentions that he ate it in his 1957 publication *Victorian Toadstools and Mushrooms*. However, there are also reports of people dying from eating very similar looking fungi. Ramaria and Clavaria (a similar looking coral fungus) have a few species that are *generally* regarded as edible.

§

FUN FACT: Despite obvious differences between fungi and insects, the two groups share some notable characteristics. Both possess chitin-based exteriors, which are an important structural component of the fungal cell wall and the exoskeleton of insects. Otherwise, chitin has a very restricted distribution among living organisms. Both fungi and insects are heterotrophic, relying upon other organisms as a source of fixed carbon. In addition, reproduction in both generally results in extremely high numbers of relatively small individuals.

Xylaria polymorpha

Xylaria polymorpha, dead man's fingers. Belonging to the phylum of fungus known as Ascomycetes (division Mycota) known as the sac fungi, they are characterized by a saclike structure, the ascus, which contains anything from four to eight ascospores in the sexual stage. The sac fungi are separated into subgroups based on whether asci arise singly or are borne in one of several types of fruiting structures, or ascocarps, and on the method of discharge of the ascospores. Often this fungus is found with a multitude of separate "digits", but at times the individual parts will be fused together. The fruiting bodies can be 3–10 centimetres tall, externally colored black or brown, sometimes with shades of blue or green. It is white on the inside, with a blackened dotted area all around. This blackened surrounding area is made up of tiny structures called perithecia. The perithecia hold a layer of asci which contain the ascospores. The spore print is black.
In springtime this fungus often produces a layer of white or bluish asexual spores called conidia, which grow on its surface and surrounding area. X. polymorpha is geographically distributed across all six inhabited continents. It is common in forest and woodland areas, usually growing from the bases of rotting or injured tree stumps and decaying wood. The white specks pictured are insects.

Cymataderma elegans

Cymatoderma elegans var. lamellatum (pronunciation: Sigh-mat-o-der-ma elegans) is from Family Podoscyphaceae. In Australia it is found on rotting wood in rainforests on the east coast.

The cap has the feel of soft, thin, flexible leather. Colour of the upper surface of this funnel-shaped fungus can vary from almost white, to many shades of brown, sometimes with hints of violet. Reliable books define the size of the cap as "diameter to 100mm, depth to 150mm", but they can grow bigger than that around the Upper Allyn. The upper surface of the cap has concentric (circular) zones, and numerous vertical folds and wrinkles. It has either a ragged or an irregular outer edge. The lower fertile surface of the cap is smooth, whitish in colour, with smooth folds and rounded ridges. The spore print is white.

The central or off-centre stem has a length to 75mm and a diameter to 15mm. The stem is tough and woody, brown on brown caps, and whitish on pale caps. One cap can have more than one stem, with the cap of each stem merging as they grow to form a single fruit body. The smooth white lower surface. This fruit body of *Cymatoderma* elegans emerges from the ground, therefore must be attached to rotting wood below the surface of the ground.

Cookeina colensoi

Cookeina colensoi This is a stalked cup, pale salmon in colour 12-20mm in diameter, the cup being 25mm deep. It is usually found in the late autumn or winter, on decorticated wood. The genus is a small one more or less limited in its distribution to the warm temperate and tropical countries. This species was first described from New Zealand material but has been found in other warm temperate countries.

Cruentomycena viscidocruenta,

Cruentomycena viscidocruenta, formerly called Mycena viscidcruenta, commonly known as the ruby bonnet, is a tiny species of agaric fungus in the family Mycenaceae. It is found in moist forested areas of Australia and New Zealand, often in small groups on rotting wood. Care in identification needs to be made to distinguish the ruby bonnet from red forms of Hygrocybe mushrooms.

Favolaschia calocera

This is truly the bad boy of the fungi world. *Favolaschia* calocera, commonly known as the orange pore fungus, is a species of fungus in the family Mycenaceae. Due to its form it is also known as orange pore conch or orange Ping-Pong bat. Throughout much of its expanded range F. calocera is now considered an invasive species. I've been walking through this area for more than 60 years: this fungus was first observed here on this walk in 2022. It colonizes rural sites along transport routes and can become dominant in habitats disturbed by human activity (such as unsupervised camping). Mycologists fear that it may be displacing native fungi species as it spreads through the paleotropics. *Favolaschia* calocera is a wood-inhabiting saprotrophic fungus. It often has a bright yellow color at first, and can later appear in a brownish yellow color, though it often presents as a bright orange stalked fan, 5 mm–30 mm diameter, with prominent pores on the underside. First observed in Madagascar, it is present in New Zealand since the 1950s, where it became an invasive species. It has recently spread around the world. In 1999 it was first found in Italy. The second European country where it appeared was Spain. In 2012 it was found in Great Britain and in 2013 it was sighted in Portugal. In 2015 it was found in France and Switzerland. In 2019 it was found in Belgium and in November 2020 it was found in the Netherlands. In September 2023 it was first recorded on the Isle of Man. Its distribution in the Americas is not well documented, but it was collected in Venezuela,Brazil and Peru. It is also present in Costa Rica and is widespread on the islands of Hawaii, It is also widespread in Australia and was first collected on Norfolk Island in 1994, but in opposition to its early spreading in New Zealand it was not collected in mainland Australia until 2004. It was also found on the French Islands Réunion Island and Mayotte, which are located near the mainland of Africa. There it was found in Kenya, DR Congo, Tanzania and Zambia. It's also present on the Seychelles. In Asia it was first found in Thailand and China with a high level of genetic variation between the collections. More recently, it was found in India and Sumatra. It is uncertain whether F. calocera is native to Madagascar or was introduced to the island from Asia. A recent study concludes that *Favolaschia* calocera is a species complex and renames the samples from Madagascar as Favolaschia calocera sensu stricto; the complex also includes three new species from China (F. brevibasidiata, F. brevistipitata and F. longistipitata), the new species F. minutissima from China and Thailand, and a variety raised to species rank called *Favolaschia* claudopus, to which the samples from Oceania, Africa and Europe seem to belong.

Daldinia concentrica

Daldinia concentrica is known by several common names, including King Alfred's cake, cramp balls, and coal fungus. It is a common, widespread saprotrophic sac fungus, living on dead and decaying wood. The fruit of this fungus is hemi-spherical, with a hard, friable, shiny black fruiting body 2 to 7 centimeters wide. It resembles a chunk of coal, which gives it several of its common names, including coal fungus and carbon balls.
The flesh of the fruit body is purple, brown, or silvery-black inside, and is arranged in concentric layers. Most sources agree that like tree rings, these layers are related to seasonal growth. The asci (sacs that contain the spores) are cylindrical and arranged inside the flask-shaped perithecium. When each ascus becomes engorged with fluid it extends outside the perithecium and releases spores. D. concentrica contains several unique compounds, including a purple polycyclic pigment and a metabolite called concentricol, which is oxidized squalene. Many types of insects and other small animals make their home inside this species of fungus.

Cookeina colensoi

Cookeina possibly colensoi, on dead wood, This is a stalked cup, pale salmon in colour 12-18mm in diameter, the cup being 25mm deep. It is usually found in the late autumn or winter, on decorticated wood. The genus is a small one more or less limited in its distribution to the warm temperate and tropical countries. Other unidentified species of Cookeina have been sighted at the Upper Allyn

Daedaleopsis

Daedaleopsis is a genus of fungi in the family Polyporaceae. The name Daedaleopsis is a reference to Daedalus, the labyrinth-maker of myth. Similarly, the maze-like pattern of pores is taxonomically described as being daedaloid.

Geoglossum sp

Geoglossum sp. (Earth Tongue) – The smooth fertile upper section may be cylindrical, grooved or flattened. The stem may be roughened. Usually associated with moss. Distinguished by the sterile stem from *Trichoglossum hirsutum* in which the upper fertile section and stem is covered by dark bristles.

§

Coprinellus micaceus

Coprinellus micaceus (once called *Coprinus* micaceus, commonly known as the mica cap, glistening inky cap, or shiny cap, is a common species of mushroom-forming fungus in the family Psathyrellaceae with a cosmopolitan distribution. A few hours after collection, the gills will begin to slowly dissolve into a black, inky, spore-laden liquid—an enzymatic process called autodigestion or deliquescence. The fruit bodies are edible, but like all ink caps, may make you sick if consumed with alcohol.

Annulohypoxylon bovei

Annulohypoxylon, sometimes called cramp balls, is a genus of fungi in the family Xylariaceae. The 27 species in the genus have a collectively widespread distribution.
The genus Annulohypoxylon was created in 2005 and contains species formerly placed in the closely related genus Hypoxylon (it is equivalent to Hypoxylon section Annulata sensu). Fossils of Annulohypoxylon have been found in 12 million year old rocks from central England.

Use in the cultivation of *Tremella* fuciformis (photo on the left) Species in the genus Annulohypoxylon, especially *Annulohypoxylon* archeri, are commonly used in the cultivation of *Tremella* fuciformis, one of the foremost medicinal and culinary fungi of China and Taiwan. *Tremella* fuciformis is a parasitic yeast that does not form an edible fruit body without parasitizing another fungus. The species Annulohypoxylon archeri is its preferred host, so cultivators usually pair cultures of *Tremella* fuciformis with this species, or others in the former genus Hypoxylon (now split into two genera – Hypoxylon and Annulohypoxylon).

FUN FACT: A fungus consists of hyphae, fine white interconnecting threads that together form a mycelium. Plants and animals grow through cell division - to get bigger they have to produce more cells. The mycelium also grows by cell division. However, the spore bearing body - the mushroom “fruit” you see - does not grow by cell division. Just about as soon as it starts to develop, a mushroom has almost the same number of cells that the mature mushroom will have. The mushroom increases in size through cell enlargement. Just add water! A mushroom can increase in size as fast as water can be pumped into its cells.

Terana caerulea (or Terana coerulea),

Terana caerulea commonly known as the cobalt crust fungus or velvet blue spread, is a saprobic crust fungus in the family Phanerochaetaceae. Usually found in warm, damp hardwood forests on the undersides of fallen logs and branches of deciduous trees, this unique fungus has been described as "blue velvet on a stick".
This species, which for a member of the corticioid fungi is relatively easy to identify, was first described in 1779 by Jean-Baptiste Lamarck, who is best known for proposing an early theory of evolution.
Terana caerulea is resupinate, meaning the fruiting body lies on the surface of the substrate, with the hymenium exposed to the outside. The fruiting body is 2–6 mm thick. It is dark blue with a paler margin, with a velvety or waxy texture when moist, but crusty and brittle when dry. The fruiting body is firmly attached to its growing surface except at the edges. In nature, the fungus surface is typically found pointing downward, which helps facilitate spore dispersal. The spore print is white.

Aleuria rhenana

Aleuria rhenana, stalked orange peel fungus, small stalked orange cups. Note the tall stalk.

Cordyceps

Pictured above are *Cordyceps* hawkesii (top) and possibly an immature *Cordyceps* gunnii. *Cordyceps* is a genus of ascomycete fungi (sac fungi) that includes over 260 species worldwide, many of which are parasitic. Most *Cordyceps* species are endoparasitoids, parasitic mainly on insects and other arthropods (they are thus entomopathogenic fungi); a few are parasitic on other fungi Cordyceps species have been sighted the Upper Allyn mostly caterpillars the remains of which can always be found attached to the fungus, .

The generic name *Cordyceps* is derived from the ancient Greek *kordýlē*, meaning "club", and the Latin *-ceps*, meaning "-headed". The genus has a worldwide distribution, with most of the known species being from Asia. Below is a photo of *Cordyceps* cranstounii

Tremella mesenterica

Tremella mesenterica (common names include yellow brain, golden jelly fungus, yellow trembler, and witches' butter) is a common jelly fungus in the family Tremellaceae. The gelatinous, orange-yellow fruit body of the fungus, which can grow up to 7.5 cm diameter, has a convoluted or lobed surface that is greasy or slimy when damp.

It is most frequently found on both dead but attached and recently fallen branches, especially of angiosperms, as a parasite of wood decay fungi in the genus Peniophora. It also grows in crevices in bark, appearing during rainy weather. Within a few days after rain it dries into a thin film or shriveled mass capable of reviving after subsequent rain. This fungus occurs widely in deciduous and mixed forests and is widely distributed in temperate and tropical regions, including those of Africa, Australia, Eurasia, and the Americas. Although considered bland and flavorless, the fungus is edible. It produces carbohydrates that have attracted research interest because of their various biological activities.

Pycnoporus cinnabarinus

Pycnoporus (also known as Trametes) cinnabarinus (also known as coccineus) is bright orange leathery bracket with worldwide distribution. This is a common polypore species (polypores are woody or leathery fungi with a multitude of tiny spore-producing cavities). It was used by Aboriginal people as bush medicine, sucked on by teething babies and chewed by adults suffering from infections or ulceration in the mouth. Antibiotic compounds have been identified in the brackets.

Campanella sp

Campanella sp, Growing on dead wood, about 7.7 mills across. A bracket, quite soft, and a little bit downy on the upper side. No stalk, and looked a bit like a small blue-grey hoof. On the underside was very light blue, and a really weird gill pattern, looking much like a cabbage leaf. It didn't drop any spores, but looking at the surface they would have to be light in colour. Campanella 'gills' are very irregular and often with cross veins. Spores can be quite interesting - *Campanella* olivaceonigra has spores shaped like a pastie (triangular with a little point sticking out at each end).

Steccherinum sp?

Possibly a Steccherinum species. This fungus was seen as small irregular patches of white, the largest being about 30 mm wide, on the underside of a log. On close examination I could see long straight teeth, each about 3 mm long. They were soft to touch.

The string of patches would have been about 6 to 7 inches long. Seen on the underside of a very damp log, probably eucalyptus, in a tall, damp eucalypt forest. An interesting resupinate fungus that could be easily missed because of its size and location.

Clavulina sp?

Clavulina is a genus of fungus characterized by having extensively branched fruit bodies, and white spore prints. Branches are cylindrical or flattened, blunt, and pointed or crested at the apex. The genus contains approximately forty-five species with a worldwide distribution, primarily in tropical regions.

Austropaxillus infundibuliformis

(formerly *Paxillus* infundibuliformis) is a species of fungus in the family Serpulaceae. A mycorrhizal species, it grows in the eucalypt forests of southeastern Australia. It is readily recognised by its tawny yellow colour, large size (relative to other Australian mushrooms) and forked decurrent gills.

The species was first described in 1927 by Australian mycologist John Burton Cleland as Paxillus infundibuliformis. The initial specimens were found in Kuitpo Forest, Mount Lofty, Mount Sedgwick, and near Bendigo. It was given its current name in 1999.

Austropaxillus infundibuliformis is readily identified by its large size, colour and gills. The cap is convex to flattened and features an inrolled margin when it is young; it grows to diameters of up to 6.5 cm. As it matures, it develops a central depression and becomes funnel shape, and the margin becomes wavy and folded. The cap colour ranges from yellow brown to dark brown, while the surface is dry and felt-like, sometimes developing small cracks in age. The closely spaced, pale cream to pale yellow-brown gills are decurrent and interspersed with lamellulae (short gills). Gills are shallow (up to 4 mm deep), have a smooth edge, and are multiply forked. They can be readily removed from the flesh of the cap. The stipe measures up to 4.7 cm long by 1.7 cm thick. Yellowish with a lighter shading near its base, it bruises dark brown where it has been injured or handled. The flesh has no distinctive odour and a bitter taste. The spore print is brown.

Hericium coralloides

Hericium coralloides on underside of fallen log. *Hericium* coralloides is a saprotrophic fungus, commonly known as coral tooth fungus or comb coral mushroom. The fruiting body is 4–18 centimetres across, whitish, and heavily branched and toothed. Both the flesh and the spore print are white. It resembles *Hericium* abietis and H. erinaceus. It grows on dead hardwood trees. The species is edible and good when young, but as it ages the branches and hanging spines become brittle and turn a light shade of yellowish brown.

Heterotextus miltinus

Golden Jelly Bells, *Heterotextus* miltinus, on fallen log, Pale translucent yellow, stalked, with the fertile surface looking slightly pitted.

Heterotextus miltinus is found widely on rotting logs and twigs in wet forest, worldwide. Fruit bodies grow to 10 mm across, bell-shaped and with a jelly-like constitution, in shades of pale yellow to bright yellow, ageing or drying to orange-red. The bell is inverted, narrowing to a tiny central stalk. When dry, it is reconstituted by moisture to its original shape. A closely related species, *Heterotextus* peziziformis, grows to about 5 mm, and differs microscopically.

Galerina sp

Galerina sp (perhaps), growing on fallen wood, Lister Park, Upper Allyn, August 2003 size 50cent coin. Galerina sp (perhaps), growing on fallen wood, Caps are the size of a 50 cent coin and are slightly umbonate. Stipe is ringed, darker than the cap. Gills are the same color as the cap. *Galerina* marginata is a species of extremely poisonous fungus in the family Hymenogastraceae of the order Agaricales. Prior to 2001, the species G. autumnalis, G. oregonensis, G. unicolor, and G. venenata were thought to be separate due to differences in habitat and the viscidity of their caps, but phylogenetic analysis showed that they are all the same species.

Lycogala terrestre

Lycogala terrestre is not a fungus! It is a slime mould - fascinating, shape-shifting, often motile organisms known for their ability to solve complex problems and find the shortest path through mazes - which forms globular clusters on very wet dead wood. The soft bodied globules were about 10mm in diameter, orange with finely warty surface.

Macrotyphula juncea

Macrotyphula juncea, growing on decaying leaves (probably lilli pilly) in wet forest, late April 2012 The leaf was put on the log for photographic purposes: it was originally on the ground. On wet leaves and litter of native vegetation. This tall, very thin, thread-like species is difficult to see. It consists of a white to tan head on a thinner, short, dark stem. The stem is attached to the substrate by a white mycelial disc or by fungal strands interwoven amongst the substrate.

Marasmius alveolaris

Marasmius alveolaris, on wood. Widely spaced gills, white cap. white gills, dark brown to black thin stem. This species colonizes eucalyptus bark, and can form extensive colonies. Marasmius alveolaris (Greek: marasmos = drying out), like many of this genus, dry out on collection, but can be completely revived with moisture. Commonly found growing in colonies on dead bark and twigs, cap to 5 mm, off-white to biscuit, with little bulges or 'blisters' between the widely-spaced whitish gills; spore print white. Stems to 12 mm, dark brown to black, very fine and hair-like, no ring.

Morganella sp

Morganella sp, a bluey gray small puffball, growing on wet, decaying fallen log.

Mycena clarkeana

Mycena clarkeana is a species of bonnet fungus in the genus Mycena. Originally endemic to Australia, it can now be found in New Zealand. Mycena clarkeana is a saprotrophic fungi and is most commonly found growing on dead logs. The pileus is ovate in shape and ranges from 5 millimeters to 3 centimeters in diameter depending on the maturity of the organism. The pileus is dark to light pink with purple hues and is hygrophanous (changes colour as it dries). The stipe is long and thin and often translucent. It is typically 1-4 centimeters long and 2-5 millimeters in diameter and attaches to the pileus centrally. The gills found under the pileus are small, slimy and tightly packed together. *Mycena* clarkeana has a white spore print.

Cordyceps tenuipes

Cordyceps = *Paecilomyces* tenuipes, parasitises beetle larvae, anamorph *Cordyceps* takaomantana. This fungus has a wide range of medicinal uses.

Resupinatus cinerascens

Resupinatus cinerascens grows mainly on small dead sticks, branches, often under bark and also sheaths of discarded bark. Often found in Eucalypt forest. Stemless cap to 20mm diam. Darkens with age to almost black.

Stemonitis axifera

Believe it or not, the two photos above are of the same species of slime mould. Slime moulds are not fungi, but are of a different kingdom altogether. When in the yellow phase, *Stemonitis* axifera is known for its motile plasmodia, meaning it can move and crawl using a process called amoeboid motion.

In its creeping phase, the slime mold resembles an amoeba and is known as a myxamoeba. The slime mould uses pseudopods (lobes of cellular material) to move and creep along surfaces.

Stemonitis axifera typically grows on decaying wood, often forming clusters of tall, reddish-brown sporangia on slender stalks.

Trichaptum biforme

Trichaptum biforme, a bracket fungus with white pores and white upper surface tinged with purple, growing on fallen wood. Sadly, the purple shades of *Trichaptum* biforme soon fade, leaving only the slightest hints of their former glory. Trichaptum biforme is a voracious decomposer of dead wood. It causes a straw colored sapwood rot in standing trees.

The cap is up to 6 cm across and 3 mm thick; more or less semicircular, irregularly bracket-shaped, or kidney-shaped; flattened-convex; hairy, finely hairy or fairly smooth; with zones of whitish to grayish white colors; the margin sometimes pale lilac.

The pore surface is purple to lilac, with the strongest shades near the margin; fading to buff or brownish in age; with 3-5 angular pores per mm; usually eroding and developing spines or teeth with maturity (sometimes appearing more like a toothed mushroom than a polypore); not bruising. There is no stem. The flesh is whitish; tough and leathery.

Plectania sp

Plectania sp has beautiful black cups and grows on smaller fallen branches and twigs, usually about 1 cm across, and 1.5 cms high with a short stem. Deep black with a fluted exterior.

Hypholoma brunnea

The deep brown caps are usually 20-45 mm in diameter and are dry but water-soaked in appearance, smooth, convex and have margins with light brown veil fragments appearing in a zone about 13 mm from the cap margins. The gills are adnate and grey with cream tints when young but become grey-brown when mature. The stem is 46mm long and 24 mm thick; it is dry, light brown, cylindrical and has a finely fibrillose surface. *Hypholoma* brunneum is found in clusters and troops on old logs in forests.

Helvella villosa

Helvella villosa. An unusual fungi, in that the cap is of a uniform thinness. In very moist soil. Cap 40mm across, about 2mm uniformally thick, leathery with central depression. Cap dun brown. Pore surface and stipe same colour. Stipe thin, central and hollow. Pores extremely fine, barely discernible to the naked eye.

Fomitopsis lilacinogilva

Rhodofomitopsis = Fomitopsis lilacinogilva is a species of bracket fungus in the family Fomitopsidaceae. Known primarily from Australia, it has also been recorded from Brazil and India. It is a white-rot fungus that grows on rotting eucalyptus wood. Its main identifying feature is the lilac colour of the pore surface on the underside of the fruit body.

The fungus produces shelf-like fruit bodies, usually 3–10 cm in diameter, attached directly to the substrate without a stipe. The caps have concentrically ridged surfaces, and are brown with lilac tints. The lilac-coloured surface of the cap underside has 4–5 pores per millimetre. The spore print is white; spores are smooth.

Ceratiomyxa fruticulosa

Ceratiomyxa fruticulosa is a slime mould, not a fungus. Unlike other myxomcetes, the sporocarps consist of a series of erect, simple or branched columns taking the form of a poroid or effused crust. White but sometimes pink or pale yellow, yellow/green. Growing up to 4 mm high and forming extensive sheets. On well rotted wood.

Cantharellus aff. cinnabarinus var. australiensis

Small to medium agaric, growing on the ground with a white, cream or pale pink spore print. Pileus pale, yellow, orange, red or pink, rarely brown, moist or viscid. Lamellae (gills) decurrent (partially grow along the stipe), rather thick, often with cross-veins. Stipe central. The fungus is edible.

Podoscypha petalodes

Podoscypha petalodes "Rosette Fungus", is a common wood-rotting fungus, on dead wood or buried wood, often in debris at the base of trees. It is found in quite a few other parts of the world. It occurs rarely singly, but usually as bunched, funnel-shaped rosettes of thin, tough, leathery tissue. The upper surface of the structure is to 40 mm across, 80 mm high (from the base of the hidden stem), colours from pale golden brown to chestnut brown, with marked radial zones; the edge is usually thinner and much paler; the surface is shiny, wrinkled and lobed, and there is often a split on one side. Underneath is the fertile surface, much duller in colour, grey when fertile, pallid brown when infertile.

Biscogniauxia

Pictured is Biscogniauxia sp on fallen Antarctic Beech, making the wood look as if it has been burnt.
Biscogniauxia is a fungal genus, particularly known for inducing cankers on the bark of trees, and is considered a cosmopolitan and omnipresent wood decomposer and endophyte. It is classified under the family Graphostromataceae, order Xylariales, and class Sordariomycetes.
It's known for causing cankers (lesions) on the bark of trees and is a common wood decomposer and endophyte (a fungus that lives within plant tissues).

Crustaceous ascomycete lichen

Plants are highly dependent on fungus, but plants are not the only organisms that fungi form a close relationship with. Algae and fungi have such a close relationship it was not realised that lichens were a symbiotic relationship between two organisms until 1867.
Many of the leading lichenologists at the time thought the idea was ludicrous, as common thinking was that all living organisms are autonomous.